

AMENDMENT OF SPECIFICATION

In the Summary of the Invention on Pages 3-8 of the Specification:

-- (Summary of the Invention)

In order to accomplish the above-mentioned object, the invention as-claimed in claim 4 provides a pile assembly employed in engineering and construction works comprising a pile body formed in a hollow column with a plurality of openings provided on the sidewall thereof, and a core assembly having a plurality of wedge members mounted within said pile body, wherein a guide rail allowing the guide of said core assembly is provided within said pile body, wherein a said core assembly is guided via said guide rail to appropriately lead the tips of said wedge members to said openings.

With such feature, it becomes possible to provide a pile assembly to position the core assembly at an appropriate spot within the pile.

Further, in order to accomplish the above-mentioned object, the invention as-claimed in claim 2 provides a pile assembly as-defined in claim 1 in which said pile assembly is formed by splicing together the pile body divided in more than 2 portions, with said core assembly provided in each of said divided pile body portion.

With such feature, a pile assembly made from a plurality of pile body portions can be provided, which means that various types of pile assembly with different length can be provided.

Further, in order to accomplish the above-mentioned object, the invention as-claimed in claim 3 provides a pile assembly as-defined in claim 2 in which a plurality of said guide rails are provided so as to extend across said divided pile body portions within said pile body.

With such feature, it becomes possible to position said core assembly at an appropriate spot within said pile assembly even when the pile assembly is formed of a plurality of pile body portions.

Further, in order to accomplish the above-mentioned object, the invention as-claimed

in-claim-4 provides a pile assembly as-defined-in-claim-2 in which a plurality of said guide rails are provided in each of said divided pile body portions.

With such feature, it becomes possible to position said core assembly at an appropriate spot within said divided pile body portion.

Furthermore, in order to accomplish the above-mentioned object, the invention as claimed-in-claim-5 provides a pile assembly as-defined-in-claim-1 in which said openings are formed as incised apertures being opened by exertion of outer force, wherein at least the lower edge portions of tongue-shaped pieces of said opened apertures are connected to said pile body, while said tongue-shaped pieces constitute slopes.

With such feature, it becomes possible for appropriately positioned said wedge members of said core assembly to project out of the pile body properly via said slopes.

Furthermore, in order to accomplish the above-mentioned object, the invention as claimed-in-claim-6 provides a pile assembly as-defined-in-one-of-claims-1-to-5-and further provided with a spiral blade for digging soil on outer wall thereof for facilitating said pile assembly to be penetrated in the earth.

With such feature, it becomes possible to bury said pile assembly properly underground, and it is possible to support the buried pile assembly by such spiral blade.

Furthermore, in order to accomplish the above-mentioned object, the invention as claimed-in-claim-7 provides a pile assembly as-defined-in-one-of-claims-1-to-6-and further provided with a pointed leading member with excavating components at the lower end thereof.

With such feature, it becomes possible to excavate the earth appropriately and to bury said pile assembly therein.

Furthermore, in order to accomplish the above-mentioned object, the invention as claimed-in-claim-8 provides a pile assembly as-defined-in-one-of-claims-1-to-7 in which said wedge members are formed to have length different from the length of wedge members adjacent thereto.

With such feature, it becomes possible for said wedge members to be projected from said pile body at different level to more securely retain said pile assembly underground.

Furthermore, in order to accomplish the above-mentioned object, the invention as claimed in claim 9 provides a pile assembly as defined in one of claims 1 to 8 in which the cross-sectional shape of said pile assembly is designed to be either circular or rectangular.

With such feature, it becomes possible to provide a pile assembly suited to various installation locations.

Furthermore, in order to accomplish the above-mentioned object, the invention as claimed in claim 10 provides a pile assembly as defined in one of claims 1 to 9 in which said wedge members are mounted on said core assembly by components, such as hinges, capable of changing angles at corresponding position with said openings.

With such feature, it becomes possible for the wedge members to project out of the pile body without bending.

Second invention of the present application relates to a magnet cross gauge provided with magnets employed in manufacture of said pile assembly.

Hence, in order to accomplish the above-mentioned object, the invention as claimed in claim 11 provides a magnet cross gauge provided with magnets employed in manufacturing of said assembly of one of claims 1 to 10, wherein said magnet cross gauge allows an insertion of a plurality of said guide rails in said pile assembly while maintaining said guide rails in parallel with respect to one another, wherein further capable of fixing said guide rails onto the inner wall of said pile body in parallel with respect to one another, and being taken out of the said pile while said guide rails remaining on the inner wall of said pile body thereafter.

With such feature, it becomes possible to provide a tool suitable for manufacturing of said pile assembly, and further to mount said guide rails appropriately within said pile assembly. It further enables said guide rails to be mounted by the hands of only 1 workman, and further reduces labor and time required in constructing said pile assembly.

Further, in order to accomplish the above-mentioned object, the invention as claimed in claim 12 provides a magnet cross gauge as defined in claim 11 further comprising a first magnet cross gauge member provided with a plurality of recesses on its periphery

enabling said guide rails to be held therein, magnets mounted adjacent to said recesses and a handle attached on one side thereof; bar members fixed to said first magnet cross gauge member; and a second magnet cross gauge member mounted to be movable or unmovable to said bar members while provided with a plurality of recesses on its periphery enabling said guide rails to be held therein and magnets mounted adjacent to said recesses.

With such feature, it makes it possible to fix a plurality of said guide rails appropriately within said pile assembly.

Third invention of the present application relates to a method for fixing said guide rails within said pile body by employing said magnet cross gauge.

Hence, in order to accomplish the above-mentioned object, the invention as-claimed in-claim-13 provides a method for fixing said guide rails within said pile body by employing said magnet cross gauge as-defined-in-claims-11-or-12 comprising a step to maintain a plurality of said guide rails in parallel with respect to one another by employing said magnet cross gauge; a step to determine the position of said guide rails within said pile body after inserting said guide rails maintained in parallel to one another within said pile body; a step to fix each of said guide rails to the inner wall of said pile body; and a step to take out only said magnet cross gauge from within said pile body while having said guide rails remain fixed to the inner wall of said pile body.

With such feature, it becomes possible to provide a method for a plurality of said guide rails to be fixed within said pile body at once with swiftness and accuracy.

Further, in order to accomplish the above-mentioned object, the invention as-claimed in-claim-14 provides a method for fixing said guide rails within said pile body as-defined in-claim-13 in which said pile body is comprised of more than 2 pile body portions, wherein said method for fixing said guide rails within said pile body is provided with a step to splice together said pile body portions performed prior thereto.

With such feature, it becomes possible to provide a pile assembly even with long length by splicing together pile body portions with short length.

Further, in order to accomplish above-mentioned object, the invention as-claimed in-claim-15 provides a method for fixing said guide rails within said pile body as-defined-in

claim-13 in which said pile body is comprised of more than 2 of said pile body portions, wherein said method for fixing said guide rails within said pile body is performed to more than 2 said pile body portions respectively.

With such feature, it becomes possible to fix a plurality of said guide rails to the pile body portions of short length at once with swiftness and accuracy.

Fourth invention of the present application relates to a method for manufacturing said pile assembly.

Hence, in order to accomplish the above-mentioned object, the invention as-claimed in-claim-16 provides a method for manufacturing said pile assembly ~~ef-one of claims-1 to-10~~ comprising a step to fix said guide rails on the inner wall of said pile body either before or after said openings are formed on the sidewall of said pile body, and a step to push the incised sections of the openings inward to form slopes after the incisions are formed, in case the incisions for said openings are not formed in said step to fix said guide rails, and to guide said core assembly provided with a plurality of wedge members with respective tips formed in acute angle within said pile body by employing said guide rails, and to position said core assembly so that the tips of said wedge members are guided by said slopes and placed adjacent to said openings.

With such feature, it becomes possible to provide a suitable method to manufacture said pile assembly.

Further, in order to accomplish the above-mentioned object, the invention as-claimed in-claim-17 provides a method for manufacturing said pile assembly ~~as defined in-claim 16~~ in which said pile assembly is comprised of more than 2 of said pile body portions, wherein said method for manufacturing said pile assembly includes a step to splice together said pile body portions before fixing said guide rails onto the inner wall of said pile body, wherein said step to fix said guide rails to the inner wall of said pile body is to install said guide rails so as to extend across a plurality of said body portions spliced together.

Furthermore, in order to accomplish the above-mentioned object, the invention as claimed in-claim-18 provides a method for manufacturing said pile assembly ~~as defined in-claim-16~~ in which said pile body is comprised of more than 2 of said pile body

portions, wherein said step to position the tip of said wedge members to be adjacent to said openings are performed to each of said pile body portions, wherein a step to splice together said pile body portions each provided with said core assembly is performed subsequent thereto.

Furthermore, in order to accomplish the above-mentioned object, the invention as claimed in claim 19 provides a method for manufacturing said pile assembly as defined in one of claims 16 to 18 comprising a step to fix a pointed leading member formed in a shape of cone or pyramid at one end of said pile assembly after performing said steps to fix said guide rails. --